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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/670,950

09/25/2003

R. Eric Montgomery

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7057

53096

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10/20/2008

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EXAMINER

PATEL, YOGESH P

ART UNIT

PAPER NUMBER

3732

MAIL DATE

DELIVERY MODE

10/20/2008

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/670,950	<b>Applicant(s)</b> MONGTOMERY, R. ERIC	
	<b>Examiner</b> YOGESH PATEL	<b>Art Unit</b> 3732	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 15 July 2008.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 18-20, 25-42 and 51-58 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 18-20, 25-42, 51-58 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 July 2008 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 18-20, 25, 27, 33, and 38 are rejected under 35 U.S.C. 103(a) as obvious over Green (5,829,976) in view of Ding et al. (6,541,020).

Green discloses a therapeutic dental delivery device (fig. 1) comprising a liquid oral therapeutic dental composition (column 1 line 67), a dispenser comprising an applicator of a brush (column 1 line 14), an activator 32 coupled to the applicator of a push button mechanism and a reservoir 30 located in the device proximate the activator and configured to store the composition, a cap 14 having an open end terminating at a position between the activator and the applicator, the activator is configured to dispense the composition from the reservoir to the applicator.

Green discloses the therapeutic dental delivery device that shows the limitations as described above however, Green does not explicitly show the composition that increases in viscosity in a more humid environment.

Ding et al. teach a liquid therapeutic composition comprising a carrier hydrogel (moisture or temperature responsive) composition that increase in viscosity (col. 15, 6-14). It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the composition of Green in order to have a composition

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that can be easily dispensed and provide controlled release of therapeutic agent in view of Ding et al. Ding et al. show the composition comprising a moisture responsive gel carrier and a therapeutic agent, and it would have been obvious matter of choice to have a compound in salt form in the composition. The gel carrier comprises polymer complex comprising carboxypolymethylene and polyvinylpyrrolidone (column 13 lines 56, 60).

2. Claims 18-20, 26, 28-30, 32, 33, 38, are 41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Grace (1,362,937) in view of Marx (1,041,315) and further in view of Ding et al. Grace discloses a therapeutic dental delivery device comprising a dental composition (page 2 line 50), an applicator 30 of a brush, an activator coupled to the applicator of a twist mechanism and a reservoir 26 located in the device proximate the activator and configured to store the composition, the activator is configured to dispense the composition from the reservoir to the applicator; however, Grace does not show a cap. Marx teaches a dental device comprising a cap for covering the applicator having an open end. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have the device with the cap of Marx in order to protect the brush from dust and impurities in view of Marx. It would have been obvious to one of ordinary skill in the art made as to the specific activator, since interchanging of twist mechanism in the device with a push button involves only routine skill in the art and Grace suggests other mechanical embodiments. The modified device does not show composition that increases in viscosity in the environment.

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Ding et al. teach a liquid therapeutic composition comprising a carrier hydrogel (moisture or temperature responsive) composition that increase in viscosity as above. It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the composition of Grace and Marx in order to have a composition that can be easily dispensed and provide controlled release of therapeutic agent in view of Ding et al. Ding et al. show the composition comprising a moisture responsive gel carrier and a therapeutic agent, and it would have been obvious matter of choice to have a compound in salt form in the composition. The gel carrier comprises polymer complex comprising carboxypolymethylene and polyvinylpyrrolidone (column 13 lines 56, 60).

3. Claims 34-37, 39, 40, 42, and 51-58 are rejected under 35 U.S.C. 103(a) as being unpatentable over Green in view of Ding et al. and further in view of Matthews et al. (2003/0232310).

The modified device of Green and Ding et al. discloses a device that shows the limitations as described above; however, Green does not show the composition comprising therapeutic agent of peroxide. Matthews et al. teach a device comprising a liquid oral therapeutic dental composition comprising therapeutic agent of hydrogen peroxide or carbamide peroxide [0020]-[0022]. It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the device of Green to have the therapeutic agent of Matthews et al. in order to whiten or bleach one or more teeth. Matthews et al. teach having instructions in order to show how to use the composition.

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4. Claims 34-37, 39, 40, 42, and 51-58 are rejected under 35 U.S.C. 103(a) as being unpatentable over Grace in view of Marx and Ding et al. and further in view of Matthews et al. The modified device discloses a device that shows the limitations as described above; however, they do not show the composition comprising peroxide. Matthews et al. teach a device comprising a liquid oral therapeutic dental composition comprising therapeutic agent of hydrogen peroxide or carbamide peroxide [0020]-[0022]. It would have been obvious to one having ordinary skill in the art at the time the invention was made to further modify the device to have the therapeutic agent of Matthews et al. in order to whiten or bleach one or more teeth. Matthews et al. teach having instructions in order to show how to use the composition.
5. Claim 31 is rejected under 35 U.S.C. 103(a) as being unpatentable over Grace in view of Marx and Ding et al. and further in view of Dragan (6,929,475). The modified device discloses a device that shows the limitations as described above; however, they do not show plurality of bristles aligned generally parallel with lengthwise direction of the device. Dragan teaches a dental device comprising an applicator with plurality of bristles 246 aligned generally parallel with lengthwise direction of the device the composition. It would have been obvious to one of ordinary skill in the art at the time the invention was made to further modify the device to have the applicator of Dragan in order to apply material between teeth and to gum at base of the teeth in view of Dragan.

### ***Response to Arguments***

6. Applicant's arguments filed 07/15/08 have been fully considered but they are not persuasive, except for 35 USC 102(b) rejection, which is now withdrawn.

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Applicant argues that Green does not show the composition that increases in viscosity in a moist environment. The examiner now agrees, however Ding et al. reference is used to make up for Green's deficiencies for rejecting the claims.

Applicant argues that Green does not disclose or teach a polymer complex including carboxypolymethylene and polyvinylpyrrolidone and a water soluble salt. The examiner respectfully agrees. However, Ding et al. teaches this limitation in col. 5, lines 65-67, col. 6, lines 1-26), also see rejection above. Further, the compositions of Ding et al. is capable of being moisture responsive depending on the type of moisture.

Applicant further argues that composition having an unexpected property of increasing viscosity in a more humid environment. However, claim 18 requires humid moist environment. Again, the compositions of Ding et al. is capable of being moisture responsive depending on the type of humid moist environment.

In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, Ding et al. is used to make up the deficiency of Green and the combination of both references would produce reasonable expectation of success.

7. Applicant further argues that Grace does not disclose a liquid oral dental composition that increase in viscosity in a more humid environment. However, Ding et al. is teaches this limitation as explained above and in rejection. Further, Grace teaches twist mechanism. The term "twisting" defined by dictionary is "to turn something from one direction to another, as by rotating or revolving." Likewise, Grace teaches twisting mechanism.

Applicant argues that Matthews et al. do not teach temperature sensitive composition. The examiner agrees; however Ding et al. is used to make up for the deficiency of Green. Matthews et al. teaches peroxide which can be used in dental composition.

### ***Conclusion***

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

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9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to YOGESH PATEL whose telephone number is (571)270-3646. The examiner can normally be reached on 8:00 to 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cris Rodriguez can be reached on 571-272-4964. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Y. P./

Examiner, Art Unit 3732

/Ralph A. Lewis/

Primary Examiner, Art Unit 3732